

FREE * AIR

A Publication of "The Association of Clandestine Radio Enthuslast"

SEPTEMBER, 1988

FREE AIR IS BIG HIT!

The reaction to FREE AIR has been marked by a record breaking number of letters sent to the publisher. The feeling seems to be unanimous, and stated best by quoting a simple remark written in on a member's change-of-address card, "I like the FREE AIR format - It's a REAL improvement". When a change of that magnitude is made there is always a lot of breath-holding, finger-crossing, and eye-closing by the responsible party. Well, it feels good to be breathing, seeing, and using all ten fingers again. Thanks for the support. The best is yet to come!

Donations

The A.C.E has received one-hundred thirty dollars in contributions to the treasury from club members. Those generous donations in addition to our slight raise in subscription rates have the club raised the club treasury very close to our goal. The A.C.E is a non-profit club and all treasury money is spent to benefit our members.

"Covert Corner" gets an owner

Renowned shortwave author Harry Helms of San Diego, CA will be the author of our newest column, tentatively named "Covert Corner" (CC). The final name of the column will be Harry's option. CC will replace "Spy Centre" with some coverage of that area, but adding much more. It seems that Mr. Helms is as open with his opinions as John Arthur so look out. This new

column may appear as early as next month.

"Free Air" or "Free Aire"?

Due to my vacillation between the above names last month, there is considerable confusion at this point as to which of the above names is correct. After choosing the name "Free Aire" and completely preparing the newsletter, my wife informed me that the word "aire" was in fact not a word. It looked so good up there. Well, we must at the very least be literate, so in protest, I changed the title to "Free Air". There wasn't time to change it in the articles. The official name is "Free Air."

ACE-ON-TAPE

The ACE-ON-TAPE project is progressing on schedule. We still need studio quality tapes of pirate broadcast, particularly of Voice of Laryngitis broadcast. A narrator is still needed also. Thanks to several members who sent in excellent off-the-air recordings and ideas for the project.

The Potential of A*C*E

By Darren Leno

A*C*E Publisher 1982-1985

Recently some fair questions have been put to A*C*E. Can it survive? Can it overcome its challenges? Can the high quality of services be maintained?

The answer is a simple one. Yes. Of course it can!

Keith's enthusiasm for the future is infectious. Speaking with him about the potential of A*C*E quickly put to rest any insecurities I had about the Association's stability. Keith has a plan and right now everything is in place for A*C*E to chart an exciting new future. With our help, a more efficient and satisfactory infrastructure for A*C*E can be realized. With our participation, our new A*C*E can succeed where the old was inadequate.

Recently my own activity in A*C*E has been limited.

---continued page 3 column 1

RADIO



PETER BELL

clcite 24-01-88

remcirks

time 10.29/11.07 UTC

sinjoo 4.5.5-4.4

6315 kHz shortwave

Francis Mougner
2 Rue Neuve

F-54800 Jandelyne
FRANKRYK



R. Peterbell
P.O.Box 65
7260 AB Ruurlo
Holland

Dialogs

By Kirk G. Baxter

Contributions to the loggings column are gratefully accepted by the deadline of the 15th of each month. Loggings are preferred on logging forms which are available for a SASE. Contributions should be sent to: P.O.B. 3436, Peoria, IL 61614. Contributions can also be left on the ANARC BBS at (309) 688-0604, in the ACE message section.

NORTH AMERICA - MEDIUM WAVE

WENJ (presumed): 1630.6, 8/21, 0052-0102*, SIO=222. Signal very weak, making it impossible to hear stn ID, but presumed this to be WENJ because of the frequency used and the playing of the song "La Bamba." (RICHOLSON,VA)

NORTH AMERICA - SHORT WAVE

Radio Caroline: 6215, 8/20-8/21, 2213-0400, SIO=322. "Caroline" identification at 0359 w/ "From the North Sea" also hrd. News from 2259-2302. Otherwise, mostly mx. Lots of QRM especially from U. S. Maritime Mobile band on USB. (RICHOLSON,VA)

Radio Clandestine: 7415, 6/19, *0259-0354*, SIO=545. I was monitoring this freq in wide band and caught RC's odd, "whale-echo" attention signal as soon as it started. Pgm started at 0301 w/ sign-on and annmt that this was a LIVE show (tape dragged in several spots, though). Mx from Jimi Hendrix, Aerosmith, Foreigner, etc. Well done world peace/anti-nuke collage w/ dialogue, SFX, and mx from Lennon and Sting. Steve Martin featured on "Another Look at Life..." Pgm ended at 0353, but carrier on until past 0354. (SMITH,NY) 7414.5, 8/29, 0205- 0256+, SIO=242. Audio very low in relation to noise level. May have had feedback on the audio. Hrd "No Time Left for You" by Guess Who. Stn off at 0218 in mid-sentence, then back on w/ ID as R. Clandestine. 0219 - Commercial for child abuse. "Cold as Ice" by Foreigner hrd as well as "Imagine" by Lennon. (BAXTER,IL) Same bcst hrd by THIBODEAUX,LA with very weak signal.

Radio Garble [Garbanzo?? kb] Worldwide (tentative): 7416, 6/11, 0739-0814*, SIO=222. Got home from work at this odd hour and in sweeping the band, I discovered this stn. Too much QRM for good copy. 2 jocks chatting back and forth (even over mx!) Hard rock featured and several TV themes hrd including "Batman" and "Mission Impos-

sible." Referred to KUSW as "the world's newest superpower." Told listeners to write to PopComm's Pirate Den and to the A*C*E, giving the Wilmington, DE address. Carrier off in mid song at 0814. ID probable, but still tentative. PSE QSL. (SMITH,NY)

Radio Liberacion/15 de/Septiembre: 7418, 7/10, *0244-0300*, SIO=433. This xmsn seemed to be relayed, so it is included in this column. Carrier clipped on with troubador song in progress. Several Tex-Mex and Norteamericano songs followed. SS ID at 0253 using both names and into short message w/ theme: "Production workers are the key to opening the door", read back and forth by OM and YL in SS. Back into mx at 0257 w/ 2 female vocal C & W songs. Carrier was cut in the middle of the second song at 0300. Modulation seemed much thinner on this xmsn than on the 6214 kHz xmsn I usually hear. A relay perhaps? (SMITH,NY)

Secret Mountain Laboratory: 7412, 7/3, 0241-0424, SIO=444. Special Fourth of July bcst anned. Several nutty skits hrd including an interview w/ a chinchilla rancher. Several "grassy" versions of military songs hrd: "Hell No, We Won't Go," and "Cadence Count" by Homer & Jethro among others. Lots of comedy this xmsn. (SMITH,NY)

Voice of Tomorrow: 7410, 7/16, 2024-2045, SIO=333. Rock mx at tune-in, IDed, then into an interview with a spokesman for CIFTRA, a white segregationist group based in Spain. It seems that these people were appalled with the increased use of the term "Hispanic" to label all Latinos worldwide. CIFTRA contends that "Hispanic" refers only to white, Spanish-speaking people, not to black or mixed blood Latinos in the New World. Where do they dig up these things? Clackamas, OR address hrd w/ ID. (SMITH,NY)

WYMN: 7425, 7/2, 2335-0016*, SIO=433. Some ute QRM, but sig overcame it. Several acoustic songs from female artists hrd. Testimonial from a woman who weathered the UMW coal miners' strike earlier this century hrd, followed by a folksong written by her. Splashover from VO Greece on 7430 at 0000 hampered reception. Final ID and address given at 0015, followed by theme mx and carrier off at 0016. Nice to hear them on again. (SMITH,NY)

UNID (possibly WABC): 6295, 7/22, 0300, SIO=333. British sounding annrc and rock mx. Summer conditions made this one tough to hear at times. Didn't sound like the NY stn. Anyone hear this one? A spoof? Lost after 0500 due to QRM. (CARLSEN,MA)

UNID: 7415, 6/12, *0530-0700+, SIO=121. Stn signed on with TV theme mx to "The Addams Family" and "My Three Sons." Male annrc and rock mx but lots of fading and poor conditions made signal almost unreadable. Only identifiable tune

later was "Wipeout" at 0700. PSE QSL. (CARLSEN,MA) [Is this the same TV theme station listed above?? kb]

Ira Richolson reports on some information he received from WCPR with 2 QSL cards. WCPR usually runs about 35 watts into a 125' 1/4 wave long wire. They usually operatin on 1620, but have been on 1630 in the past. They hope to be able to move into the 3 mHz range in the distant future. They operate a homemade xmr, that since April they have improved to include plate modulation and have started using an equalizer and a compressor. Antenna work continues. They first went on the air as WMNJ, operating on 1620 and 1630. Their 11/27/87 bcst was called "The Gift of Sex" by Ron Hutchcraft, which is a religious pgn to encourage teenagers not to have sex before marriage.

Ira also sends along some clarifications of MW bcsts.

** In the January, 1988 ACE, the unidentified stn on 1620.4 on 11/21/87 was not WENJ, but was WCPR.

** In the February, 1988 ACE, the unidentified stn on 1620.4 was also WCPR. They were rebcsting Roy Masters' show "How Your Mind Can Keep You Well." WCPR reports the show can be hrd on WWVA, Wheeling, West Virginia on 1170 kHz.

** WCPR reports that the September 20, 1987 bcst reported in the ACE was probably WCPR but they're not sure since their records are unclear. According to their letter, they were probably rebcsting a New York FM stn and adding their own stn ID as a test of their eqmt.

WCPR usually goes on the air Friday and Saturday evenings and late night, but they report that there may be a change in the future. Also, since they have QSLs printed, their response to reports should be quicker (presumably to the Hilo addr.)

Thanks to Ira Richolson for this info on WCPR!

It was nice to have an August bulletin so quickly after the Special Edition issued by Bill Martin. We hope we can continue to get a bulletin in your mailbox on a timely basis. In order to do so and to have a quality and worthwhile publication, we need YOUR loggings and other contributions. As Jim Garrity pointed out in the August bulletin, this is a club newsletter, not just a magazine. So please, listen and send in your loggings!!

THE ANARC BBS
formerly the ACE BBS

Phone #1-309-688-0604

7 Days a week, 24 hours

Potential - Leno

Although not currently an active radio listener, as a past publisher I have a personal interest in seeing the Association thrive. I've seen it mature due to the selfless efforts of hundreds and hundreds of people. Now that I am living in New Orleans, not too far from Keith, I hope he'll find a way to channel my renewed energy.

A*C*E became my child six years ago when Lani Petit and I founded her. Other enthusiastic people soon joined us, Kirk Baxter, John T. Arthur, George Zeller, Bill Martin, Podney Sixe, and Scott McClellan not the least of them. But now the child has grown up. Keith has made the changes necessary to put A*C*E back on a positive track. He has a plan that I believe will solidly prepare A*C*E for the 1990's. And, I'm excited to add, in our new A*C*E there will be plenty of room for new leaders to join the old.

Our Association has always been a leader in the world of radio listening. We were leaders in computerization. We were the first to offer members a 24 hour computer bulletin board system, and then in a typical goodwill gesture, we opened it to other SWLs. We were the youngest club ever inducted into ANARC. A*C*E was routinely lauded and credited by prominent personalities, shortwave and pirate broadcasters, publications, and best of all its own members. Our Association's leaders and members were internationally recognized as experts and leaders in their field.

A*C*E has again and again reasserted your right to know about and discuss underground broadcasting activity, even when some clubs decided to bury this information.

Everything is in place right now for A*C*E to move forward. With Keith at the helm, our Association's potential can be realized. A*C*E's professional quality services will again be the yardstick against which other clubs are measured.

As A*C*E journeys into the '90s, I wouldn't miss this ride for the world!

I'm excited to support A*C*E and Free Air in any way that I can. Keith, please renew my membership in the Association of Clandestine radio Enthusiasts.

Darren Leno is a Masters degree candidate in Communications at the University of New Orleans, New Orleans, LA.

THE LESSONS OF PIRATE RADIO

by Brian J. Kingby

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Have you ever noticed that most often in life you get much more of an education from actual experiences than you could ever hope to get at any institution of higher learning? The following story illustrates just how enlightening a seemingly simple hobby-type activity can be, even when the participant in the activity has no idea of the great lessons he will be learning. Here then is the story of the education I got as a result of my assembly and operation of a "pirate radio" station.

The story starts many years ago—so long ago, in fact, that it almost seems like it occurred in a former incarnation. The year was 1965, and I was a radio enthusiast in my early teenage years, with little technical knowledge, but loads of desire to have my very own personal radio station. I had some very basic electronics understanding, and this was almost entirely gleaned from the pages of the general-interest electronics hobbyist magazines of the day, such as Popular Electronics, Electronics Illustrated, and Radio-TV Experimenter. I was not aware of the fact that there were amateur radio and other special-interest communications publications available at the time, since my local newsstand didn't carry any of them. To compound my lack of knowledge, I didn't know anyone that was accomplished in the field of electronics, nor did I have any friends that even knew a real, live ham radio operator! I was stuck, with nobody to help me to assemble my radio station, and in retrospect, it's probably lucky for me that I was, since if I did know someone that knew better, they probably would have talked me out of the course of action that I was soon to embark upon, thereby depriving me of all of the valuable lessons I was soon to learn.

I was not totally in the dark when it came to radio, however. Ever since I can remember, I always was an avid AM radio listener, even as a little child. By 1964, I was doing make-believe radio shows into my parent's tape recorder at least once a week, for a few years! I already had been a shortwave radio listener for four years, thanks to an introduction to the hobby by an uncle, who had one of those gigantic post-war German-made consoles in his living room. On one family visit, he demonstrated it's operation to me, and after hearing the BBC, Radio Moscow, Deutsche Welle, and other amazingly distant stations coming into his living room LIVE, I was hooked at once. Up to that point, I never knew that such DX was possible without the use of some kind of super-secret government spy equipment!! But my uncle's console was also a stereophonic receiver and phonograph, and my parents were impressed with this section of the equipment, so we got one of our own shortly afterwards. I can't tell you just how many hours I must have spent in front of this regal-looking piece of furniture, DX'ing many different countries, while fantasizing about someday being able to do a radio show of my own. I must have monopolized the use of the console badly, because for my birthday a few years later, my folks bought me a portable shortwave radio of my own, so they could listen to their Mantovani records, instead of hearing all kinds of wierd SWL noises coming from the living room console.

By '65, I also had been introduced to CB radio, and I bought a cheap, (\$10, I think) used CB rig from a relative of some schoolmate of mine. I hardly knew him, much less his relative, but the price was right, so now I had a CB rig with a loaded whip antenna coming out of the back of it.

The man told me that it would not be legal for me to use the rig for transmitting, unless my parents got an FCC license, but I ignored his warnings, and didn't tell my folks that I was on the way to becoming a radio criminal! CB did not really impress me that much at first, however. This was probably due to the fact that almost nobody could hear my weak signal, because of the indoor antenna.

Anyway, the people I heard were just talking to each other, like on the telephone. I wondered why nobody was playing music and doing radio shows, like I wanted to do? I soon found out that even though everyone was breaking the FCC rules by engaging in idle chit-chat, that playing music on the CB was a MAJOR no-no, and that if I did this, other CB'ers would track me down, and rip my antenna off of my roof!! This would have been quite a feat, since my crummy whip was right there in the bedroom with me. I decided that it was probably not a good idea to test the determination of these guys, however, since over the air, most of them sounded like the hit men in those old 1930's gangster movies. I did put up a big outdoor CB antenna later that year, but alas, it never was used for broadcasting music and radio shows on CB, just for idle chit-chat. It did see some action on another band, though. More on this later.

So, what was I to do? How would I get my broadcast station going? Well, in those days, any aspiring electronics enthusiast worth his salt had an indispensable tool, a radio bible, if you will. This was the Allied Radio Mail Order catalog. One day, while leafing through my newly delivered 1965 catalog in devout worship, I spotted an interesting item. It was called a Wireless Baby Nurse, and was made by the Fanon-Masco Company. This dandy unit, according to the advertising copy, was to be placed in the nursery room of a baby, and once this was done, it could broadcast the sounds of the baby's cries to it's parents anywhere in the house, or even in the house of a neighbor, if the parents were out visiting them. All that they had to do was to tune in the broadcast signal from the handy-dandy Baby Nurse on ANY standard AM radio!! The equipment was tunable to transmit on any frequency in the AM broadcast band! EUREKA!!! My radio station was right there on that page of the new catalog, masquerading as a dopey electronic babysitter! Luckily, I wouldn't have to buy the transmitter via mail order, since I had heard a rumor that nobody that ever sent money to a mail order company ever actually received what they ordered. No, I would go to my local Allied Distributor in person to buy my radio station. This was far too important to be trusted to the careless hands of the US Post Office! Upon arriving home with my new purchase, the lessons I spoke about earlier were about to begin. When I opened the carton, I got my first surprise. The Baby Nurse was painted in a soft shade of baby PINK! I guess that I should have expected something like this, since it was made to match the decor of a nursery, but it never entered my mind that it would be so wimpy-looking, since the catalog only had a black and white line drawing of the item. I must have thought that it would resemble an R-390 or some other formidable, manly hunk of gear! It also was a tiny thing, with two vacuum tubes, (remember them, kiddies?) a chassis-mount filter capacitor and an audio transformer, in a cabinet no more than six inches square. THIS was going to propel my radio programs throughout the neighborhood? Another problem immediately became apparent: There was no microphone input jack! Again, I should have expected something like this, since the unit had a built-in speaker which actually was being used as a sound pickup device. It was ob-

vious that some modifications would be necessary, but my technical skills were growing by leaps and bounds every day, (or so I thought) and I was youthfully (foolishly?) optimistic that I could use my skills to overcome any engineering problems that I was to encounter.

So, my first step in assembling our neighborhood's first radio station was to modify the audio input circuit of the "Nurse" to accept a microphone (and later tape and phonograph) inputs. This was relatively easy, even for a neophyte like me, and now I was ready to do some on-the-air testing. Well, the instructions that came with the transmitter gave the user two options as to how the broadcast signal would be propagated. One option was to select carrier-control operation, which stuffed the output signal from the transmitter into the AC power lines, through a coupling capacitor. I had never heard of this concept before, and I was quite skeptical that it would give me good results in covering the neighborhood. Sad to say, my fears were well founded—I couldn't even hear my signal well in every room in my OWN house, much less anywhere outside, since in my neighborhood, all the AC power lines were underground, and didn't propagate the signal well.

I enlisted the grudging help of a few of my childhood friends by asking them to listen for my signal on their radios in their homes, then I would call them on the telephone to ask how well they could hear me. The results were dismal, even for homes that were very close to mine, (like those right across the street!) so I quickly decided that this carrier-current business was a fraud, and I abandoned it's use. The other option that the manufacturer recommended was to connect a wire antenna of no more than ten feet in length to the output screw terminal. They were emphatic in their warnings that UNDER NO CIRCUMSTANCES was the wire to exceed ten feet in length, lest the owner of the equipment be in violation of FCC rules, and would likely get into trouble!! Well, I dutifully cut myself a nice ten foot length of insulated hookup wire, connected it to the output screw terminal of the transmitter, and threw the loose end out the window of my top floor "studio", which incidentally doubled as my bedroom!! More phone calls to my friends (who at this point were beginning to think that I was a nut case) resulted in results that were somewhat better than before with carrier-control, but were still pretty poor. I could cover an area of perhaps one and a half square blocks, if I chose my operating frequency carefully, and even then I was regularly being "stepped on" by radio stations halfway across the country on the outer reaches of my coverage area.

Clearly, this was not acceptable to me. I had envisioned my radio station as being the voice of the neighborhood, and also as a forum for the Model Rocketry club that I belonged to at the time, which had members in several communities adjacent to mine. I wanted to be able to reach all of the members with the station, to give news developments and launch dates and results of the flight performances of newly designed rockets that the members were always coming up with. This was a pretty popular hobby in the Space-conscious 1960's. So, I needed some kind of boost in my signal strength if my ambitions were to be realized. It may be interesting to note that all during this early time of experimentation with the transmitter, none of my friends could ever appreciate the significance of what I wanted to do. Unfortunately, in those times (and the present ones too, I suspect) people that have little interest in technology and new developments had a "ho-hum" attitude towards my project. They took radio

stations for granted, and saw no big deal in somebody setting up one of their own, even though nobody I knew had ever heard of anyone else that had done it before.

Being a radio enthusiast surrounded by those who do not share the joys and mysteries of the hobby is akin to a man that has the gift of eyesight trying to adequately describe a majestic sunset to an unfortunate soul that was born sightless—there is simply no point of reference between the two people's understandings. So, all during my tests of the transmitter's range, I received little support or encouragement from those around me, even though I thought that I was doing it for them as well as myself. As it turned out, I was really just fulfilling my own desires to learn more about a subject that I loved, (radio) while trying to apply what I was learning to other purposes, perhaps in a misguided way.

Anyway, back to the story. As time went by, it became obvious to me that I would have to take further measures to get my signal out better. It looked like the FCC regulations would have to be "bent" a little when it came to my antenna system. The ten foot wire just wasn't making it, so I decided to take a drastic step and hook up my rooftop CB antenna to the AM transmitter's output. What I did was to tie the coax shield together with the hot lead of the cable, and operate the whole mess as a random length wire. This was a formidable antenna, or so I thought, since the CB antenna was mounted on a twenty foot mast, the antenna itself was twenty feet long, and, along with the feedline length, the antenna's total length approached one hundred feet. In addition, the whole CB antenna system was guyed with three wires which were about forty feet long. These, I figured, would act as part of the AM antenna, since they were connected to the support mast. I hooked this whole thing up, and then started some test broadcasts again. The range was extended somewhat, now reaching about four square blocks. This still was not adequate, and more research was definitely needed on extending the range further. It was at this time that I mentioned my neighborhood broadcast station idea to some of the people that I knew on the CB band. Some of these guys seemed to know what they were talking about when it came to electronics, although if they really did, I wondered why they were still on CB, and not ham operators.

One of my CB pals, Al, said that he had an old copy of Popular Electronics that had a schematic in it for a ham 160 meter five watt CW transmitter, which was designed for mobile operation. He assured me that this circuit, with some small modifications, would serve as a "final amplifier" for my flea power transmitter. I had my reservations about this, and wasn't sure if I wanted to go that far over the line into a real illegal operation—I figured that increasing my antenna length over the legal limit was one thing, but running five watts of power was entirely another matter. You see, I really didn't know anything about "pirate radio" activity at this time, even though it was probably happening in this and other cities across the country right at that time. As I mentioned before, I was an avid reader of the popular electronics magazines then, but these publications never acknowledged that such illegal operations were taking place—they simply ignored any mention of the subject, so I really was in the dark as to what the real consequences could be for running a pirate station, but I feared the worst! Anyway, Al gave me the old magazine, and after looking it over for a while, I decided to give it a whirl, and I started to gather the parts for the project in earnest. The article also had some plans for antennas and antenna matching networks that

would be suitable for the little transmitter, so I was off to the races!!

Time, however, was passing by, and academic as well as social pressures kept me from moving ahead as quickly as I had wanted to on the project. I had also discovered the mysteries of the opposite sex by this time, which started to occupy some of my time as well. It now was early 1966, and I had gotten most of the parts together that were needed to build the project. By this time, I had graduated to a better CB rig, and my old ten dollar rig was retired to the junk pile. It was going to be a real job building the transmitter, though, since I never had built anything that complex before. Oh, sure, I had built some little one transistor mike preamplifiers and the like, but never anything like a tube RF amplifier with a power supply capable of 250 Volts, at 50 milliamperes. This was scary stuff!! It then dawned on me that my old CB rig had a ready built power supply AND plate modulator stage just sitting there begging to be used.

The 160 meter project was a one tube crystal-controlled CW transmitter, anyway, and I originally had planned to use it as a "linear amplifier" somehow, by feeding the modulated output of my little AM transmitter into the completed "final amp". Now, my brainstorm was to plate modulate the suitably modified 160 meter RF output stage, by using the existing power supply and modulator stages in my old CB set. I would then hook up my low power AM transmitter's output to the input of the final amplifier, using it as a variable frequency oscillator and exciter!! What a damn genius I was!! I carefully built up the project, using my four dollar pocket volt-ohmmeter to check for short circuits and other wiring errors. I also consulted the schematic of the old CB rig to find the proper point to tap off the modulated B+ voltage for the new AM final amplifier stage. I was really learning a lot from this project, I thought.

It was at this point that this project became an end unto itself—my original plans for the station's use were not really valid anymore, since the Model Rocketry club had disbanded, and most of my neighborhood friends had also discovered girls, cars, rock music and myriad other distractions to keep them busy. They certainly were no more interested in my wacky radio station idea now than they were before. I wasn't sure just who my audience was going to be, but dammit, I was going to go ahead with my radio station anyway!! Fortunately, some of my CB buddies were interested in seeing if I could pull this project off, and since we all lived within approximately five miles of each other, those with an interest in the subject were willing to help me out with "field reports" of my signal strength, should I ever get the bloody thing up and running. This was about all they could help me with, however, since technically, they were not even up to my low level of learning.

So, things were starting to move right along. The amplifier portion of the project was complete, having being built up on it's own separate little chassis. The 6AQ5 tube it used was really an audio power amplifier, but it worked o.k. on low RF frequencies, according to the author of the Popular Electronics article. I decided to use a wooden board to support all of the separate electronic assemblies that had to be tied together in order to make this thing work. After all, there was the "Nurse" exciter, (which long before this time had been removed from it's baby pink enclosure, to expose it's chassis and two tubes—I felt embarrassed having that pink thing on my tough-looking breadboard) the old CB rig, which was now my power supply, modulator, and low-level audio stages for the final amplifier, which sat next to it

on the board. Last on the wooden plank was a small homebrew antenna tuning unit, complete with some neon bulbs, to act as RF output indicators. Needless to say, no real RF power metering devices were within my means at the time. I did have a small CB-type dummy load for initial testing and tuning purposes. As all the many interconnections between the individual units were finally completed, the time was now at hand for the initial power-up of the system. What an air of excitement I felt as one by one, I switched on the exciter and modified CB rig with outboard final. The tubes all glowed warmly, as per normal operation, and, with a few tuning adjustments, I noticed a faint glow in the neon lamps on the tuner unit!! WOW!! It was working!! A few more touchups in the tuning unit, then back to the final amplifier adjustments, and holy cow, the neon lamps that were paralleled across the dummy load were really glowing quite brightly!! I was as proud as I could be at seeing my work actually functioning.

My next step was to feed some audio from my tape recorder into the suitably modified CB rig's audio input circuits. I did this quickly, and then tuned in the signal on my portable receiver. Hey, it didn't sound too bad--maybe a little thin on bass, but it was much better than I could have ever dreamt it would be!! Flushed with success, I decided that right then, that night, I would hook up my big CB antenna system that we discussed before, and see how the final loaded up into it. I was then going to call some of my CB pals to see if they could hear my first test broadcast. I remembered how the author of the article that inspired this project stressed that for an antenna to be efficient at these low frequencies, that a good ground was absolutely essential. Well, I was in a second story bedroom, and there were no real water pipes around, but I did have a steam radiator nearby, which I figured was connected to the water system of the house anyway, so I rigged up a nice, heavy, piece of ground braid which I salvaged from a piece of RG-58 coaxial cable, soldered a hefty alligator clip to the end of this braid, and commenced to connecting the other end to the antenna tuning unit. There would be no ground losses in this system, I thought. I then took the end of the braid with the big alligator clip, and approached the steam radiator's valve stem, to make a secure ground connection. Suddenly, BOOM!!!! There was a blinding flash, and what seemed to be an explosion right in front of my hand!! I was knocked backwards, and when my head cleared slightly, I realized that the room I was in was now totally dark, save for the small area of carpeting under the radiator which was glowing faintly from the shower of the molten remains of one half of the alligator clip which I had previously had in my hand!! I quickly patted out the smoking carpet in the dark, and groped around trying to gather my wits and get to a room that still had electrical power. I had taken out a main fuse in my cellar, and half of the house was now in darkness, without any AC power at all.

Since it was well after dark outside, you might imagine that this caused some consternation among my parents, who were never very fond of this hobby I had chosen to begin with. They were always worried that I would electrocute myself someday, and doggone it, they were almost right!! Needless to say, after this episode, they "grounded" me (no pun intended) for awhile, and insisted that I be more careful in the future, when working on electronics projects. One day, while serving my penance, (an enforced absence from any transmitter work) I sneaked my little volt-ohmmeter back to the scene of the crime, and THEN I discovered the perils of a design shortcut

which was surely foisted upon this earth by Satan himself, the AC-DC hot chassis!! You see, the wireless "Nurse" had no AC power transformer, and depending how you plugged the unit into your AC outlet, you stood a fifty percent chance of having the little chassis of the unit at a full 120 volts above AC ground, at practically unlimited current capability. This phenomenon never showed itself before, since the CB set that it was interconnected to had a chassis that was floating above ground at all times, unless the user intentionally put it at ground potential.

Once discovered, the problem was easily solved. I simply stole some more DC and filament power from the CB rig, which had a nice, line isolated power supply, and fed the "Nurse" with this power, instead of it's own supply. A few weeks later, after the "heat" had died down from my rude introduction to the "hot chassis" meltdown syndrome, I was ready (and allowed) to resume my experimentation. I resumed my testing by making that exciting ground connection to the radiator, (this time without incident) and powering up the gear on the breadboard.

This time, however, I had the CB antenna connected to the antenna tuning unit instead of the dummy load. I found that it was relatively easy to match a nice, flat dummy load to the final amp, but it was hell to try and match the crazy unknown impedance of the CB antenna, feedline, guywires, et al. It became necessary to experiment with the tuning unit, and to try some other wiring configurations in the tuner to find a workable match. It was during this extensive period of constant tuning/rewiring, tuning/rewiring process that I came across another phenomenon that was new to me. At one point, I managed to get my hand across the tuning capacitor assembly in the antenna tuning unit, of course while power was being applied to it. I had never really thought too much about this in the past, since I knew that the final amplifier, at best, could probably only deliver about three or four watts of RF output. This never intimidated me, and I felt that it was harmless. Well, when I got my hand across that tuning capacitor with the antenna obviously a high-impedance load, there must have been hundreds of volts of RF energy present at that point, even at these low power levels!! Folks, if you have never had the misfortune of getting an RF burn, you may consider yourselves very lucky! There is virtually no other pain quite like that of an RF burn, and another feature of this form of anguish is that you get to smell your very own skin burning while you're trying to figure out just what in hell is happening to you!! It is a real unique experience. So you see, between the RF burns, the AC-DC chassis meltdown, and the numerous instances of high voltage B+ shocks I was regularly absorbing, my early feeling of success and accomplishment was now being tempered with a new sense of humility and respect for things I had formerly taken rather lightly, and my humility lessons were not yet complete at this point!

Eventually, I managed to find a suitable antenna tuning configuration that would allow me to load up the final amplifier properly when the CB antenna monstrosity was connected to it, and now I was ready for some actual on-the-air field engineering tests. I contacted some of my CB friends that were anxiously awaiting any news from me on the project, since there had been many delays on my part in getting the thing up and running. The initial tests were not too encouraging, though. One or two of the guys managed to hear my signal at locations several miles from the transmitter site, but even when they did hear me, the signal was weak and not pleasant to listen to, due to the incredible interference on the broadcast band at

night, which is when most of my early test transmissions took place. I was not using the relatively successful approach that other pirates took towards the congested frequency problem, you see. I never considered moving my operating frequency slightly above the existing broadcast band to avoid competition from the legal broadcasters, because there was a strong station right there at the top of the band already in my town, and to go higher still to avoid them would have put me outside of the tuning range of most, if not all common AM receivers at that time, so, I was constantly jockeying around to find a more acceptable channel to occupy. I think I finally settled on a frequency of around 1240 kilohertz, which was pretty bad, but was the best one I could find.

I decided to do more testing during the daytime hours, so the injurious effects of long distance skip would not be a factor in masking the true range of my signal coverage. Unfortunately, my pals were not available to assist me during the daytime, so what I wound up doing was to prerecord several long music tapes on my reel-to-reel machine, usually several albums of the rock music of the day, set up the transmitter and antenna system, then go out on foot with my trusty portable radio to do my own field coverage tests. Since there were several hours of music on the tapes, and since I knew exactly what musical selections were on the tapes, there was no way that I could mistake my signal for any other one that I might have heard. This was a distinct advantage when the signal was weak, and it's identity was suspect on a crowded band.

I continued this form of shoe-leather testing for quite some time, as it turned out. It was good exercise, and it gave me what I thought was a good idea of just what my coverage area was. It was not always a lonely task, either. You see, by this time I had gotten romantically involved with someone, and many times we would go out for long walks together, and when we did, I always had my radio with me to check my signal. So, I was killing two birds with one stone!! During these times when I had female company, I didn't really explain that what I was doing was checking out my OWN broadcast signal, however. She knew that I was a radio and electronics freak, and just assumed that I was listening for long distance stations, or for my friends on the CB. She had a very limited knowledge and/or interest in these subjects, but she never objected to sharing some of our time together with my radio hobby, as long as I paid sufficient attention to her, which I can assure you that I did!

Over the period of the next year, I had done quite a few broadcasts, usually at nighttime. My earlier field tests, both on foot and with my CB pals, convinced me that my signal's range was approximately two square miles, effectively, with some variations in certain directions. Not exactly a wide coverage area, but it satisfied me. Most of my broadcasts were totally spontaneous, with no prior mention of when I would be on the air again, even when my friends would ask me. I was, at this point, very reluctant to make ANY mention of this "pirate" activity on the CB band, for obvious reasons. The broadcasts usually lasted for several hours, with me making announcements between record cuts and occasionally telling a joke or two. It was not, by any means, exciting radio. I realized that I fell more into the category of a "technical-type", rather than an on-air talent, and so probably did whatever listeners that had the misfortune to tune me in!

The broadcasts continued throughout 1967, sometimes on a bi-monthly basis, and sometimes less frequently. You see, I really had no way of knowing who was listening to me, since I didn't

have a mail drop address, and I was not aware at the time of those great tools of the future pirates, the telephone loop-lines. I certainly was not going to give my home number out over the air, so my audience input was zero, except for a rare comment from a CB pal that they were listening last night, or whenever. This lack of feedback from listeners made me lose a bit of interest in doing the broadcasts, and anyway, mother nature was exerting pressures on me to express myself more often with my girlfriend, rather than with my transmitter, so the broadcasts became less and less frequent, as our relationship heated up further.

As 1967 drew to a close, our relationship was getting more involved, and I wanted to take it to a yet higher plateau, if you catch my drift. This put a serious dent in my broadcasting activities, as you might well imagine, but I had planned to make another broadcast in early 1968, and this one would be different in that for the first time ever I told my girlfriend to tune in her radio on the appointed night to the frequency I was operating on. You see, in spite of all the previous transmissions I had made, I NEVER told her that I had an AM broadcast station, so she never heard me in action on the air before! Perhaps I neglected to tell her because I was embarrassed at what I considered was my poor on-air performance, or perhaps the reason was that I knew that she simply would not understand what I was doing, and was disinterested, anyway. Whatever the reason was, the broadcast this time was going to be different! I carefully chose appropriate musical selections in advance—ones that I knew evoked a certain type of response in her. (heh-heh-heh) I wanted to make this broadcast a real turn-on, and I really had set out to make sure that she would be impressed with the show I was going to do. Ah, the fateful night had arrived. I had assembled all of the necessary records and tapes in advance, and got on the telephone with her earlier that night to guide her in to the right frequency on her bedroom radio. I tell you, it probably would have been just as difficult for me to tell her how to land a Boeing 747 over the phone, since she had never tried looking around the dial for radio stations that didn't virtually lift the top of her receiver off! I put up a test tone on the channel to help her identify my signal, but it took a long time for her to get me tuned in properly—it's sure a good thing that "they've come a long way, baby," and now women are no longer intimidated by things technological. It was a bitterly cold night, almost exactly twenty years ago as of the date of this writing. The weather conditions were quite similar to the present, with deep sub-freezing temperatures and the frozen remnants of a snowstorm which had occurred several days before. As the midnight hour arrived, I made another quick phone call to my girl just to make sure that she still had the signal tuned in properly. I still hadn't told her that what she was going to hear was, in fact, me dedicating a whole program to her. I just told her that there was to be something on the air that I thought she would like to hear. She was hearing my test tone pretty well, so I then went to my operating position and began the show.

Well, considering my lack of professional announcing skills, I thought I was doing rather well at the time. As I said before, the whole program consisted of specially selected music which was meaningful to us at the time, and in between the songs, I would try my best to do romantic recitations which were coincident with the music. In thinking about it now, this must have sounded like the most insipid, dippy thing imaginable, but, hey, I was just a teenager with wildly rampaging hormones, and anyway, this type of radio was pretty popular on some commercial FM stations follow-

ing the "Summer Of Love" in 1967. I was just personalizing the message a little, to fit our relationship. Things were moving right along, and before I knew it, an hour or so of music and recitation had gone by. I was playing selected cuts from the Beatles "Sergeant Pepper" album, with some commentary in between, when, outside my window, I heard a faint squeaking sound, which was the unmistakable noise that auto or truck brakes sometimes make when they are being applied slowly. There was, in fact, a small truck inching its way down my block. It stopped approximately three doors away from mine, and just stayed there for awhile.

Now, a little background is in order. On my block at that time, there was NEVER any vehicle traffic of any kind after midnight, and truck traffic especially was very, very rare at any time of the day!! Well, I don't have to tell you what went raging through my mind in a blinding instant—the FCC, coming to bust me for illegal broadcasting on the AM band!! I was scared absolutely senseless!! My reactions were instantaneous, though. I turned off the transmitter, the tape machines, and every other piece of equipment in the room, and then proceeded to turn out every light not only in my room, but in every other room in the house that had a light burning. I then went back to the window to check out the truck, but due to the EXTREME cold outside, my windows were frosted over, and had enough condensation on them so that my vision was impaired to the point where I couldn't really tell how many people were in the vehicle, nor could I tell if there were any markings or antennas on it. I did see, however, that whoever it was inside there, they weren't moving away, at least not right away!! They must have stayed parked in the exact same position that they originally stopped at for at least a half an hour, and during all that time, nobody got into or out of that vehicle. This was, without a doubt, the LONGEST half hour or so in my life, up to that point. Eventually, they DID move on, without anyone getting out of the truck. I breathed a MASSIVE sigh of relief, and honestly, I don't remember sleeping a wink that night.

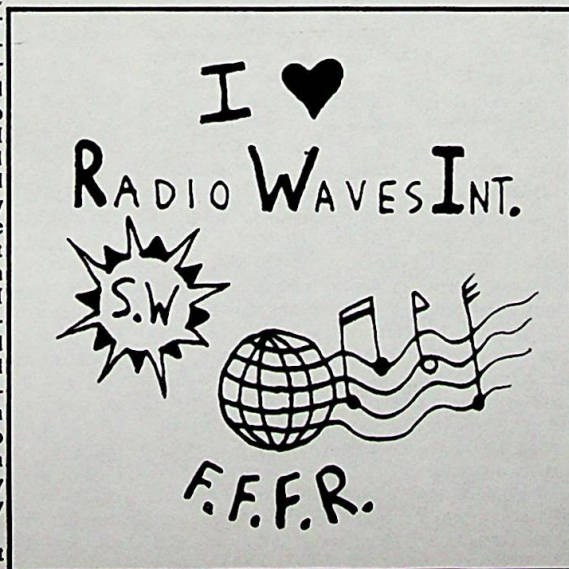
Needless to say, my career in pirate radio had come to an ignominious and abrupt end on that cold winter morning. I never found out whether the occupants of that truck were from the FCC, or whether it simply was someone that happened to stumble across the signal, and then decided to try to track it down. It is quite possible that my little transmitter was putting out a strong second harmonic on the then active Marine Radiotelephone frequencies, or perhaps a third harmonic somewhere on the eighty meter Amateur Radio band. I wasn't using any kind of harmonic filtering at the time, so this was a distinct possibility. All I knew was that in my mind, I had come closer than I ever had wanted to being busted by the FCC. My fears were perhaps irrational at the time, because even if I were caught in the act of operating a station without benefit of a valid license, I was under the legal age for prosecution, it would have been my first and only offense, and at the time, I held no other FCC licenses, so it's entirely possible that I would have gotten off with a simple warning not to do it again, but I wasn't going to push my luck another time, especially since they had gotten so close to my house.

I never spoke too much about what

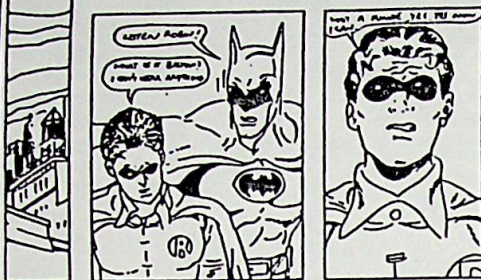
had happened that morning, even when my CB friends asked why I never made any more broadcasts. I just told them that I had more important things to attend to. My girl had asked me the next day why I stopped broadcasting right in the middle of "A Day In The Life", but I explained that I was having technical difficulties, and that I had no choice but to turn the transmitter off. She, nonetheless, was very impressed with my performance, and really went for the romantic stuff!! After all, how many other girls had whole radio shows dedicated to them? At least my broadcast had achieved the desired result! What was the outcome of my brief, but enlightening career as a pirate radio operator? Well, I never lost my love for radio and broadcasting, and after going on to higher education in electronics, in the ensuing years I have obtained many different licenses from the once-feared FCC, both of the amateur and commercial variety. I eventually got a job in legal commercial broadcasting, as a technical-type person. (My original assessment of my on-the-air talent was accurate—I stunk!)

Alas, although my final broadcast had impressed my girlfriend, we did eventually break up several years later, and haven't seen each other again since then. I sometimes wonder if now, twenty years later, wherever she may be, if she ever casts her memory back to that morning's special broadcast dedicated to her alone, as I often do? No, probably not. What was another inevitable outcome of my pirate past? Well, as you might imagine, I have always had a warm spot in my heart for those operators of pirate stations whose exploits preceded mine, and faced the same fears and uncertainties that I did. I also have a fondness for those operators who have taken the torch that has been passed on to them, and have gone on to run many successful, long term pirate radio operations, doing things that I never dreamt that any pirate would ever dare to do, with live listener telephone call-ins, and high powered, long range broadcasts. These stations, with their well-produced programs, show us just how far individuals without corporate backing or other limitless resources can advance in the field of broadcasting when their desires just will not allow them to quit, despite the many adversities they must endure. Their talents speak for themselves.

My days of pirate radio operation are unquestionably over, but pirate radio itself will always live on, as long as there are young people out there that love radio and broadcasting, and who are not willing to be denied their right to pursue that



IN PICCADILLY RADIOLAND TO THE INANE SOUND OF 261 UNTIL...



BATMAN & ROBIN HEAD OFF TOWARDS THE STRANGE SOUNDS



DIY RADIO 104.7 FM
WED 8pm

SEEK, LISTEN & CONTRIBUTE C/O RAVEN PRESS 75 PICCADILLY M1 2BU

RADIO DAYS

With the glorious exception of Peelie, not one DJ on the national airwaves is satisfactorily wired into hardcore/thrash happenings at the moment. Unlike America, which can boast whole networks of regional college/independent/hardcore stations.

However, thanks to some crafty Mancunians with an admirable sense of adventure, and taste buds acutely tuned to our favourite crud, crash and roaring thrash, the times-they-are-a-changin'! Their project is an open access pirate station called DIY radio and they carry out their devil's work on 104.7 FM, spreading musical filth over 15 square miles of Manchester for two hours a night, four nights a week.

Previously a two-show hardcore station, which started in October 1987 with the British premier performance of the famous San Francisco radio show Maximum Rock'n' Roll, the cast has now blossomed into 11 presenters with a disarmingly broad cut-up of hardcore (three shows), industrial, hip-hop, noise and straight indie rock.

I interrogated one of their ilk, an unassuming young fellow called Pik. So why is the radio underground flourishing?

"The problem, quite simply, is that a demand is not being met by 'popular radio', which is infested with 'personality jocks' who seem to care more about soap star gossip columns than about records.

"It seems that most records on radio are chosen on the basis of pressure from record companies. Anything that's played can't be too raw, it's got to be safe.

Nothing with any dodgy connotations or else some people might write in and complain. In my view a band like The Stupids should be regularly on daytime radio."

But doesn't DIY receive many complaints from listeners about noise (ie hardcore) or 'language'?

"No, not at all, although we've had people complaining that we're too tame—and they demand more thrash!"

DIY believes there's a shortfall in the coverage of all forms of independent music. And far from keeping their radio expertise to themselves, they are keen to share their knowledge, proving you don't need a powerful businessman behind you to set up a station, since nowadays you can set up for as little as £100.

So has DIY got political connotations?

"Yes, it is political, but political with a small 'p'. We're not pushing any philosophical view, we're just promoting good music. It's a matter of people getting up and taking control of their own entertainment, not just being mindless consumers."

And your view of hardcore in this country at the moment?

"It's a bit like the kitchen of a party, where everybody goes through it once, a lot of very interesting bands have developed through hardcore... Husker Du, Sonic Youth, Swans, The Beastie Boys... even the Sugarcubes!!"

For more information, write to: DIY Radio, c/o Raven Press, 75 Piccadilly, Manchester, M1 2BU.

Pirates off air

A PIRATE radio station has pulled the plug after Government inspectors started breathing down its neck.

Wellingborough Local Radio has enjoyed four years on the air and claims that hundreds of listeners tune in each Sunday.

But in its latest clampdown the Home Office warned the illegal broadcasts would have to stop.

SILENT

Now the disappointed enthusiasts have decided to stay silent until the Government's promised reforms for new community radios are put into action.

A shroud of secrecy has been thrown over the broadcasters, who risk heavy fines and jail if the radio investigation squad catches up with them.

But one of the broadcasters, who is also involved with another pirate station, Wellingborough's Falcon Radio, said: "It really is not

By ANN ROBERTS

worth the risk of getting caught.

"We knew the inspectors might be on to us but it wasn't until we read it in the newspaper that we realised they were that close."

The decision to close down came just hours after the broadcasters read about the Government's threats in the Leader's sister newspaper the Wellingborough Evening Telegraph on Friday evening.

The radio appealed to different cultures and its broadcast was a blend of music and interviews.

"We believed we did a good job and it is just a shame the Government has taken so long to sort out community radioes," he said.

FORCED

"But because of the publicity we have been forced to close down. Who knows how long we will have to wait before Wellingborough's truly local radio station is back on air — most likely it will be the next century before anything is done." Falcon is also off the air.

Radio pirates escape again

Report by HEATH JEFFRIES

PIRATE radio operators from Eastbourne's ABC Radio were again chased off the airwaves by Department of Trade and Industry investigators on Sunday.

The raid followed a similar late night pounce by the DTI on April 2, when the investigators used a tracking device to find ABC's location near Beachy Head.

The group of law-defying radio fanatics were broadcasting from Firle

Beacon near Lewes when DJ Andy Ellis spotted the men creeping towards them.

He said, "We were doing a pre-recorded show that went out late in the evening."

"We were sitting round the transmitting equipment and we have look-outs every three or four hundred yards."

"When I spotted the DTI they were about 100 yards away from us. We switched

the equipment off so that they lost their tracking signal."

"Then we packed everything into a wheelbarrow and just pushed the gear away."

"We were all wearing balaclavas, so they could not see our faces. We walked past them, told them that one day they would get us, and said good night."

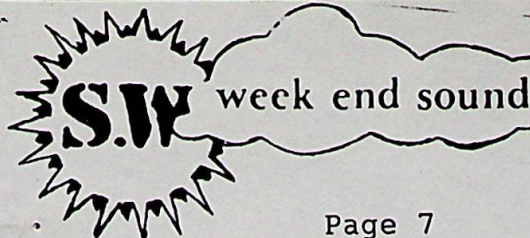
"They were so close to us that we were lucky to get

away. "We are having a little break for a while, but we will be back on the air in two weeks time," added Mr Ellis.

In the meantime, ABC Radio will be out raising money for the Guide Dogs for the Blind by taking part in the Langney Shopping Centre 10-mile walk on Sunday.

Mr Ellis added, "The DTI think we are winding them up because of the work we do for the community, and it makes them more determined to catch us."

"EASTBOURNE HERALD", 23rd April 1988.



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What is A.C.E.?

The Association of Clandestine Radio Enthusiasts (A.C.E.) is a club dedicated to the monitoring of unlicensed, unusual, unexplained, and unofficial radio broadcasts. If your interest includes listening to pirate radio stations, clandestine broadcasts, and covert communications, A.C.E.'s publication "Free Air" is of interest to you.

Pirates: "Free Air" is famous for its thorough coverage of a subject that has been controversial in shortwave circles for years. Some general shortwave club newsletters refuse to print pirate loggings because column editors do not like

pirates. We want you to have information which helps you hear the interesting, often outspoken and satirical programming these stations offer. Our pirate loggings editor, seven year veteran Kirk Baxter, each month brings loggings and comments to our readers.

Euro-Pirates: Across the Atlantic, Europe is a hot-bed of pirate activity. Being seldom heard in the US, "Free Air" relies on the mysterious Podney Six for loggings and other news of the Euro-

information for US pirate stations with "The Directory" which is published quarterly in "Free Air".

Clandestine Confidential: Defined as unlicensed transmissions containing messages aimed at achieving social and/or political change, and generally not in English, clandestine broadcast can provide some of the most challenging and rewarding DX. George Zeller has established himself as one of the experts in this field. His monthly column provides commentary, insight and most importantly, hard to get answers to many of the questions that surface in this area.

Technicalities: Due to return soon, our master of the "Freedom of Information Act", Bill Martin brings not only past accounts of pirate bust and histories, but also articles of technical background.

Covert Corner: A rework of the old "Spy Centre" column covers not only the often unofficially explained "spy numbers" stations, CC delves into the entire covert spectrum. From drug runners to criminal communications to spies to unacknowledged military communications this is the most unpredictable challenge in DXing.

ACE Annual Membership Dues (includes one year subscription to "Free Aire")

United States and possessions.....	\$15.00
Canada.....	\$16.00
World Air Mail.....	\$18.00
Sample Issue.....	\$ 1.50

pirate scene.

Veried Response: Six year veteran John Arthur, well known in the hobby for outspoken, sometimes argumentative point of view, provides editorials along with reader response, and QSL response reports from members. John also provides what is probably the only source of QSL

The Association of Clandestine
Radio Enthusiasts
P. O. Box 46199
Baton Rouge, LA 70896-6199

